

**TWO NEW AND TWO RARE TUBULIFEROUS THRIPS, RECORDED  
PRINCIPALLY FROM ILLINOIS**

(THYSANOPTERA, PHLAEOTHIRIPIDAE)

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The species described or listed herein belong to taxonomically difficult groups. These and many of their relatives are not only extremely close in diagnostic characteristics but also, what is worse, they are members of genera that have never been revised or analyzed. If the new characteristics and comparisons introduced in the following prove to be of aid, it is hoped that any synonyms that chance to result will be justly pardoned.

The types and other specimens studied are deposited in the collections of the Illinois Natural History Survey.

**Eurythrips setiger, new species**

**Female** (macropterous).—Length, distended, nearly 2 mm. General color dark brown, being darkest in apical segments of antennae, thorax, and posterior segments of abdomen. Pedicel of antennal segment III yellow to yellowish brown. Legs yellowish brown being darkest in the femora. Body with red subintegumental pigment.

Head, fig. 1, moderate in size, smooth dorsally and ventrally except at extreme sides and base. Eyes bulged. Ocelli present. Postocular setae long and dilated. Antennal segment III moderate in size, not shortened, with one inner and one outer sense cone; segment IV with one inner and two outer sense cones; segments VII and VIII each with a distinct pedicel. Maxillary stylets placed far apart within head.

Prothorax, fig. 1, with anteromarginal setae minute; other major setae well developed, dilated. Epimeral sutures complete. Ventrolateral metathoracic setae dilated. Fore tarsi each with a small tooth. Femora each with an unusually differentiated, dilated seta, fig. 2. Fore wings fully developed.

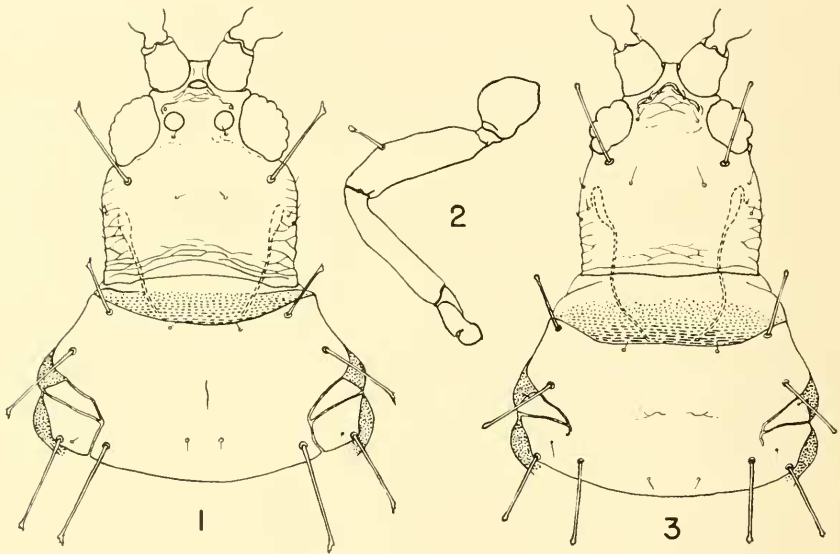
Pelta roughly triangular, hexagonally reticulate to nearly smooth. Abdominal tergites III to VIII each with two pairs of sigmoidal wing holding setae. Abdominal tergite IX with major posterior setae about as long as tube and pointed. Tube about twice as long as length of abdominal tergite IX.

**Female** (brachypterous).—Length, distended, about 1.7 mm. Similar to macropterous female except head and legs slightly lighter in color. Ocelli present. Wings reduced to pads. Wing-holding setae present on abdominal tergites but slightly reduced in size.

**Male**.—Unknown.

**Holotype**.—Female (macropterous), Dixon Springs, Illinois, August 30, 1951, Ross and Richards, from vegetation. **Paratypes**.—1 ♀ m, Rantoul, Illinois, July 21, 1953, Evers and Stannard, from native prairie plants; 1 ♀ m, Rogers, Arkansas, July 8, 1949, Sanderson and Stannard, from grasses; 1 ♀ m, 3 ♀ b, Key West, Florida, December 27, 1951, Richards and Stannard, from grass clumps.

This species is separable from all others in the genus by the characteristic of the unusually differentiated, dilated seta present on each femur. It is also distinctive as being one of the few species of *Eurythrips* which has the prothoracic epimeral sutures complete.



*Eurythrips setiger*: fig. 1, dorsal aspect of head and prothorax; fig. 2, left hind leg showing differentiated seta on femur (all other setae omitted). *Eurythrips constrictus*: fig. 3, dorsal aspect of head and prothorax.

#### *Eurythrips constrictus*, new species

**Female** (brachypterous).—Length, distended, about 1.7 mm. General color brown; head, especially at base and apex, antennal segments I and II, legs, and thorax light to yellowish brown; posterior segments of abdomen grading into dark brown. Body with red subintegumental pigment.

Head, fig. 3, moderate in size, about as in *connatus* Hood, smooth dorsally and ventrally except at extreme sides and base, constricted under the posterior facet of each eye and at this point usually with a tooth-like projection. Eyes bulged. Ocelli absent. Postocular setae well developed, dilated. Antennal segment III with one inner and one outer sense cone; segment IV with one inner and two outer sense cones; segment VII with pedicel moderately thickened varying from the condition in *ampliventratis* Hinds to almost the broad condition as found in *connatus*; segment VIII with a broad pedicel. Maxillary stylets usually retracted into the head well beyond the midway point between the base of the eye and the base of the head.

Prothorax, fig. 3, with anteromarginal setae minute, remainder of major pairs of setae well developed, dilated. Epimeral sutures incomplete. Ventrolateral metathoracic setae small and pointed. Fore tarsi each with a minute tooth. Mid and hind femora without any unusual, differentiated setae. Wings reduced to small pads which bear one or two dilated setae.

Pelta broad, much as in *ampliventralis*. Wing-holding setae reduced. Abdominal tergite IX with major posterior setae not exceeding tube, pointed.

**Male** (brachypterous).—Length, distended, about 1.3 mm. Color and structure much as in brachypterous female. Abdominal sternite VIII with a narrow, median transverse glandular area. Abdominal tergite IX with the major lateral posterior setae reduced in size.

**Holotype**.—Female, Mammoth Cave National Park, Kentucky, April 8, 1950, L. J. Stannard, from *Andropogon* clumps. **Allotype**.—Male, same data as for holotype. **Paratypes**.—5 ♂, same data as for holotype; 21 ♀, 15 ♂, Red Hills State Park, Illinois, April 30, 1950, P. W. Smith and L. J. Stannard, from *Andropogon* clumps.

The name of this species refers to the constricted, narrow, abdominal glandular band of the male which is a principal feature for its differentiation. In one characteristic, the moderately thickened pedicel of antennal segment VII, *constrictus* stands intermediate between *ampliventralis* and *connatus*. Usually females of *constrictus* can be distinguished from those of *ampliventralis* and *connatus* by the position of the maxillary stylets. In *constrictus* these stylets extend well beyond the half way mark between the base of the eyes and the base of the head whereas in the other two species these stylets are placed more basally in the head.

The species *genarum* Hood, recently described, is apparently very similar to *constrictus*, but *constrictus* bears only one outer sense cone on antennal segment III in contrast to *genarum* which is stated to bear two outer sense cones, and by this characteristic the two may be separated.

#### Hindsiothrips, new genus

Head longer than wide; surface smooth except at extreme base. Eyes relatively small as in *Haplothrips* subgenus *Karyothrips*, never prolonged ventrally more than dorsally, not kegelike or particularly bulged as in *Eurythrips*. Ocelli present in the macropterous form, absent in the apterous form. Postocular setae moderate in size to fairly long, pointed or dilated. Cheeks smooth without strong lateral setae. Antennae each eight-segmented; segment III subequal in length to segment IV, with at least one inner and one outer sense cone; segment IV with one inner and two outer sense cones; segment VIII decidedly lanceolate. Mouth cone short and broadly rounded. Maxillary stylets retracted far into the head, placed fairly close together within the center of the head. Maxillary bridge not discernible.

Thorax nearly smooth, without strong sculpture. Prothorax with anteromarginal setae small or long, anteroangular setae well developed, midlateral setae always small, posterior pairs of setae well developed; these setae pointed, blunt or dilated.

Epimeral sutures usually incomplete. Praepectus present. Mesopraesternum degenerate to nearly absent. Macropterous or apterous. Fore wings, when present, of nearly even width throughout and not indented in the middle, without accessory fringe cilia near the apex of the trailing edge. Fore legs armed with a small tooth.

Pelta nearly rectangular to trapezoidal, weakly sculptured. Abdominal tergites III to VII in the macropterous form each with one pair of wing-holding setae; in the apterous form these setae not differentiated. Abdominal tergite IX with major posterior setae longer than tube, always pointed, and in males the lateral pair is much reduced in size. Males apparently without a distinct glandular area on abdominal sternite VIII. Females with a small internal rod (fustis) in abdominal segment IX. Tube relatively short; terminal setae not greatly elongate.

**Type species.**—*Hindsiana pullata* Hood.

Besides the type species, this genus should also include *robustisetis* (Watson and Preer) which was originally described in *Eurythrips*.

Unfortunately the creation of *Hindsiothrips* brings into being another genus difficult to define. But the two species included cannot be placed in any presently recognized genus with any degree of satisfaction, and it seems best, therefore, to emphasize their intermediate taxonomic position by grouping them in a separate category that takes its place between *Phlacothrips* (sensu Stannard 1957) especially the *flavicauda* complex, *Haplothrips* especially the subgenus *Karyothrips*, and *Eurythrips*.

*Hindsiothrips* can be separated from *Haplothrips* and its subgenera and complexes by the combination of the lanceolate form of antennal segment VIII and by the incomplete epimeral sutures; from *Eurythrips* by the retracted position of the maxillary stylets which are placed closer together within the center of the head than is the case in *Eurythrips*; and from *Phlacothrips*, particularly *flavicauda* and its relatives which bear praepectal plates, by the dark, non-yellow tube and by the incomplete epimeral sutures.

The foregoing differences are stressed for the few species of each of these genera which are atypical. *Hindsiothrips* can be distinguished from the majority of the species in *Haplothrips* by the fore wings which are not indented in the middle, in *Eurythrips* by the shape of the eyes which are not especially bulged, and in *Phlacothrips* by the presence of praepectal plates.

#### KEY TO THE ADULTS OF HINDSIOTHRIPS

Tarsi generally brown; postocular setae pointed .....	<i>pullatus</i>
Tarsi generally yellow; postocular setae dilated .....	<i>robustisetis</i>

#### *Hindsiothrips pullatus* (Hood), new combination

*Hindsiana pullata* Hood (1925:27). ♀. Type locality: Macedon, New York.

**Female** (apterous).—Length, distended, nearly 1.5 mm. Almost entirely dark brown. Inner apical angles of femora and pedicel of antennal segment III yellow to colorless. Body with red subintegumental pigment.

Eyes relatively small. Ocelli absent. Postocular setae moderately long and pointed.

Prothorax with anteromarginal and midlateral setae small, anteroangular setae moderate in size, and the posterior pairs of setae somewhat longer; the smallest of these setae pointed to blunt, the longest setae blunt or slightly dilated. Epimeral sutures incomplete.

Pelta subrectangular. Tube short.

**Female** (macropterous).—Length, distended, about 1.6 mm. Similar to apterous female except for the following: Eyes slightly larger in size. Ocelli present. Wings fully developed, nearly uniformly light gray. Pelta in the form of an isosceles trapezoid. Wing-holding setae sigmoidal.

**Male** (apterous).—Length, distended, about 1.5 mm. Color and structure similar to apterous female except for the sexual characteristics.

Previously this species was known solely from the type locality in New York State. The following records are new: ILLINOIS.—1 ♀ m, 2 ♀ a, Karbers Ridge (Hardin County), August 17, 1951, Ross and Stannard, from dead branches; 1 ♀ a, same data as preceding except, May 5, 1950, Sanderson and Stannard; 1 ♀ a, Belle Smith Springs (Pope County), May 5, 1950, Sanderson and Stannard, from dead oak branches; 1 ♀ a, Alto Pass (Union County), May 10, 1951, Sanderson and Stannard, from dead willow branches; 1 ♂ a, Decatur (Macon County), September 8, 1955, L. J. Stannard, from dead branches. ARKANSAS.—1 ♀ a, Rogers (Benton County), July 10, 1949, Sanderson and Stannard, from dead pine needles.

**Hindsiothrips robustisetis** (Watson and Preer), new combination

*Eurythrips robustisetis* Watson and Preer (1939:3). ♀, ♂. Type locality: not stated, but either Putnam or Alachua counties, Florida.

**Female** (apterous).—Length, distended, about 1.8 mm. General color yellowish brown. Antennal segment III to VIII, median and lateral portions of the terminal abdominal segments and tube, darker brown. Anterior of head, pedicel of antennal segment III, inner apical angle of femora, apex of tibiae, and all tarsi, yellow. Body with red subintegumental pigment.

Eyes relatively small. Ocelli absent. Postocular setae moderate in size, dilated.

Prothorax with major anterior and posterior setae well developed, dilated; midlateral setae minute. Epimeral sutures incomplete.

Pelta rectangular. Tube short, but slightly longer than that of *pullatus*.

**Female** (macropterous).—Unknown.

**Male** (apterous).—Unknown to me. Described as 'very similar to the female but smaller.'

Previously *robustictis* was known only from Florida. The following new records indicate a wide distribution in the eastern part of the United States: ILLINOIS.—2 ♀ a, Palos Park (Cook County), December 14, 1932, Frison and Ross, from soil cover; 4 ♀ a, Elgin (Kane County), October 10, 1952, Ross and Stannard, from *Andropogon* clumps. MASSACHUSETTS.—2 ♀ a, Salem (Essex County), September 24, 1948, Bonet and Christiansen, presumably from soil debris.